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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/590,960

06/09/2000

Steven Augart

35479-00007

2374

7590

08/24/2004

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EXAMINER

MIRZA, ADNAN M

ART UNIT

PAPER NUMBER

2141

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SK 2

Office Action Summary	Application No.	Applicant(s)	
	09/590,960	AUGART, STEVEN7	
	Examiner	Art Unit	
	Adnan M Mirza	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al (U.S. 6,496,477), and Katsube et al (U.S. 6,501,756).

As per claims 1,18 Perkins disclosed a method for use by a first node on a network in determining the geographic location of a second node on the network, said method comprising the steps of: receiving a data packet over the network from the second node (col. 31, lines 31-53), the data packet including a network identifier for the second node and a Time-To-Live (TTL) field that has a value (col. 31, lines 27-30), wherein the value of the TTL field for the data packet indicates a maximum additional number of hops that could have been made by the data packet (col. 21, lines 41-50); and sending a probe packet addressed to the network identifier for the second node (col. 32, lines 47-54),

However Perkins did not disclose in detail wherein the probe packet also includes a TTL field, and wherein an initial value for the TTL field of the probe packet is set based on the value for the TTL field of the data packet.

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In the same field of endeavor Katsube disclosed where the number of hops in the LSP from the ingress node to the egress node is informed to the ingress node by the label mapping messages and the ingress node by the label mapping messages and the ingress node decrements the TTL value of a packet to be transmitted through the LSP by the informed hop count value, is effective only when all the intermediate nodes located on an LSP are unable to check and update the TTL value in a packet transferred (col. 3, lines 8-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated wherein the probe packet also includes a TTL field, and wherein an initial value for the TTL field of the probe packet is set based on the value for the TTL field of the data packet as taught by Katsube in the method of Perkins to reduce overhead over the transmission of the packets and achieved faster and fixed processing of the packets by being more fault tolerant.

3. As per claims 2,19 Perkins-Katsube disclosed further comprising steps of: receiving a response to the probe packet, the response including a network identifier for a router (Perkins, col. 24, lines 34-46); and comparing the network identifier for the router to a database that includes a geographic location for each of plural network identifiers in order to identify a geographic location for the router (Perkins, col. 32, lines 47-54).

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4. As per claim 3 Perkins-Katsube further comprising a step of using the geographic location for marketing purposes (Perkins, col. 32, lines 47-54).
5. As per claim 4 Perkins-Katsube disclosed further comprising a step of using the geographic location for compiling demographic information regarding site visitors.
6. As per claim 5 Perkins-Katsube disclosed further comprising a step of caching the geographic location for use in responding to subsequent data packets from the second node (Perkins col. 32, lines 32-46).
7. As per claim 6 Perkins-Katsube disclosed wherein the geographic location identified for the router is identified as a geographic location for the second node (Perkins, col. 32, lines 47-54).
8. As per claims 7,21 Perkins-Katsube disclosed further comprising steps of: obtaining information that is based on the geographic location for the second node; and transmitting said information from the first node to the second node (Perkins, col. 33, lines 1-16).
9. As per claims 8,25 Perkins-Katsube disclosed further comprising a step of sending a second probe packet prior to receiving a response from the probe packet (Katsube, col. 10, lines 42-57).

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10. As per claims 9,22 Perkins-Katsube disclosed wherein the second probe packet has a TTL field, wherein an initial value for the TTL field of the second probe packet is set based on the TTL value of the data packet, and wherein the initial value set in the TTL field for the second probe packet is different than the initial value of the TTL field for the probe packet (Katsube, col. 10, lines 1-16).

11. As per claims 10,26 Perkins-Katsube disclosed further comprising a step of sending a number of probe packets having a same initial value in their TTL fields, wherein the number of probe packets is based on at least one of: value of the location information, an expected data gram loss rate, cost of bandwidth, availability of bandwidth, and network congestion control policies (Katsube, col. 11, lines 33-43).

12. As per claim 11 Perkins-Katsube disclosed further comprising steps of: estimating a number of hops taken by the data packet based on the TTL field of the data packet (Katsube, col. 15, lines 26-31); and sending plural probe packets addressed to the network identifier for the S second node (Perkins, col. 19, lines 13-19).

13. As per claims 12,28 Perkins-Katsube disclosed wherein the initial TTL values for a majority of the probe packets sent in response to the data packet are set based on the number of hops estimated in said estimating step (Katsube, col. 16, lines 42-48).

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14. As per claim 13 Perkins-Katsube disclosed wherein the plural probe packets are sent without waiting to receive a response from any previously sent probe packet (Katsube, col. 16, lines 42-48).

15. As per claims 14,29 Perkins-Katsube disclosed further comprising steps of: determining, based on responses to the plural probe packets, whether a routing anomaly exists; and if it is determined that a routing anomaly exists, sending a second set of probe packets (Katsube, col. 3, lines 51-64).

16. As per claim 15 Perkins-Katsube disclosed wherein it is determined in said determining step that asymmetric routing exists (Perkins, col. 24, lines 36-34).

17. As per claim 16 Perkins-Katsube disclosed wherein it is determined in said determining step that multi-path routing exists (Perkins, col. 24, lines 34-40).

18. As per claims 17,24,30 Perkins-Katsube disclosed wherein the data packet is a SYN packet requesting initiation of a TCP/IP connection, and wherein the probe packet is sent prior to completion of handshaking required to initiate the TCP/IP connection (Perkins, col. 12, lines 43-54).

19. As per claim 20 Perkins-Katsube disclosed further comprising a step of identifying a geographic location for the second node as the geographic location for the router that is closest in

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number of hops to the second node from among the routers for which a geographic location was identified in said comparing step (Perkins col. 32, lines 32-46).

20. As per claims 23,27 Perkins-Katsube disclosed wherein each of the probe packets is designed to elicit a response from a network device upon the earlier to occur of: (i) a specified number of hops that is within a range of the number of hops that the data packet made $\pm N$, where N is approximately 5, and (ii) encountering the second node (Perkins, col. 32, lines 4-16).

21. As per claims 31-34 has the same limitations as claims 1,18 therefore under the same limitations claims 31-34 can be rejected.

Applicant's arguments are as follows:

22. Applicant argued that prior art did not disclose feature of sending a probe packet addressed to the network identifier for a node from which a data packet was received, with the probe packet including a TTL field whose initial value is set based on the value for the TTL field of the received data packet.

As to applicant's argument Katsube disclosed the TTL field and the CoS field for indicating the priority of performing transfer option are defined. The TTL field and the CoS field are also defined in conventional IP header packet (col. 2, lines 8-11). Where the number of hops in the LSP from the ingress node to the egress node is informed to the ingress node by the label

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mapping messages and the ingress node by the label mapping messages and the ingress node decrements the TTL value of a packet to be transmitted through the LSP by the informed hop count value, is effective only when all the intermediate nodes located on an LSP are unable to check and update the TTL value in a packet transferred (col. 3, lines 8-15). Determines the output interface, and the contents of generic label header (label value, CoS value, and the TTL value) to be provided (col. 8, lines 23-25).

23. Applicant argued that prior art did not disclose sending a probe packet in any manner whatsoever, much less to a “second node” from which a data packet was received.

As to applicant’s argument It is well known in the art of networking where trace route is being defined as sending test packet to specific network identifier or IP address, in other words it is also being called pinging the IP. Where the networks are being tested by sending pings to another node or end point and also doing trace routes.

24. Applicant argued prior art did not disclose estimating the number of the hops made by received data packet based on information contained within the data packet and then transmitting probe packets having been designed, based upon such estimated number of hops, to elicit responses from a group of network devices that primarily includes the first few routers on the inbound path.

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As to applicant's argument Perkins disclosed given a source and destination, another form of search step searches the link matrix entries for different network paths between the source and the destination. For instance at least one pair of suitable paths are selected depending on a search condition depending on the number of path nodes in common. One type of search condition specifies one pair of paths are selected which has a ratio $H5$ of first number of path nodes (or links) in common divided by a sum of the nodes (or links in each path wherein the ratio is less than a predetermined amount (col. 31, lines 31-40).

Conclusion

24. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (703)-305-4633.

26. The examiner can normally be reached on Monday to Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dharia Rupal can be reached on (703)-305-4003. The fax for this group is (703)-746-7239.

27. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)-746-7239 (For Status Inquiries, Informal or Draft Communications, please label "PROPOSED" or "DRAFT");

(703)-746-7239 (For Official Communications Intended for entry, please mark "EXPEDITED PROCEDURE"),

(703)-746-7238 (For After Final Communications).

28. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

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Any response to a final action should be mailed to:

BOX AF

Commissioner of Patents and Trademarks Washington, D.C.20231

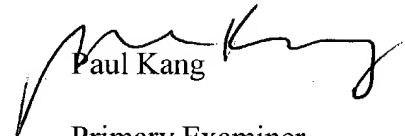
Or faxed to:

Hand-delivered responses should be brought to 4th Floor Receptionist, Crystal Park II,
2021 Crystal Drive, Arlington, VA 22202.



Adnan Mirza

Examiner



Paul Kang

Primary Examiner